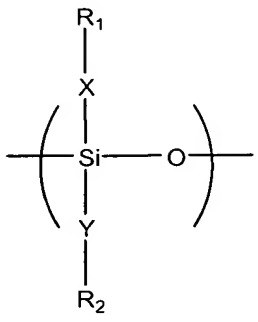
CLAIMS

1. The use of at least one polymer comprising at least one siloxane repeating unit corresponding to the general formula (I) below:



(I)

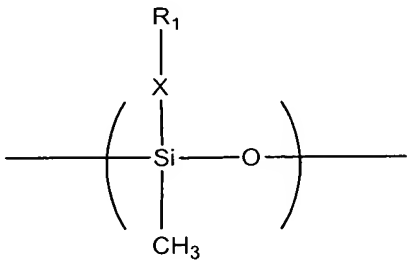
in which:

X and Y, which may be identical or different, represent a single bond or a saturated or unsaturated, linear hydrocarbon group containing from 1 to 50 carbon atoms;

R_1 and R_2, which may be identical or different, represent a hydrogen atom, a CN group, a group $C(Z)_3$, $CH(Z)_2$ or CH_2Z with Z representing a halogen atom; an NH_2 group, a group NHR_3 or NR_3R_4 with R_3 and R_4 representing, independently of each other, a halogen atom, a methyl group or a linear or branched, saturated or unsaturated hydrocarbon chain containing from 2 to 20 carbon atoms and possibly one or more heteroatoms and/or one or more chemical functions comprising at least one heteroatom; on condition, however, that at least one from among R_1 and R_2 is not a hydrogen atom;

or of a composite comprising this polymer and one or more electrically conductive fillers, as sensitive material in a sensor for detecting one or more nitro compounds.

2. The use as claimed in claim 1, in which the siloxane repeating unit corresponds to the particular formula (Id) below:



(Id)

in which X is a saturated or unsaturated linear hydrocarbon group containing from 1 to 50 carbon atoms, while R_1 has the same meaning as above.

3. The use as claimed in claim 2, in which, in the particular formula (Id), X represents an alkylene chain containing from 2 to 10 carbon atoms.

4. The use as claimed in claim 1, in which the siloxane repeating unit is trifluoropropylmethylsiloxane or cyanopropylmethyl-siloxane.

5. The use as claimed in claim 1, in which the polymer is chosen from

polytrifluoropropylmethylsiloxanes and polycyanopropyl-methylsiloxanes.

6. The use as claimed in claim 5, in which the polymer has an average molecular weight ranging from 50 to 100 000.

7. The use as claimed in claim 1, in which the conductive filler(s) of the composite is(are) chosen from carbon black particles and metal and metal oxide powders.

8. The use as claimed in claim 1, in which the polymer or the composite is used in the form of a thin film covering one or both faces of a substrate.

9. The use as claimed in claim 8, in which the thin film is from 10 angstroms to 100 microns thick.

10. The use as claimed in claim 8, in which the thin film is prepared via a technique chosen from spraying, spin coating, drop coating, dip coating, the Langmuir-Blodgett technique, electroplating and *in situ* polymerization of a precursor monomer of the polymer.

11. The use as claimed in claim 1, in which the detection of the nitro compound(s) by the chemical sensor is performed by measuring a variation in the mass of the polymer or in the electrical conductivity of the composite.

12. The use as claimed in claim 1, in which the sensor is a gravimetric sensor.

13. The use as claimed in claim 12, in which the sensor is a quartz microbalance sensor.

14. The use as claimed in claim 1, in which the sensor is a resistive sensor.

15. The use as claimed in claim 1, in which the sensor is a microsensor that comprises one or more gravimetric sensors and/or one or more resistive sensors, at least one of these sensors comprising a polymer or a composite as defined above.

16. The use as claimed in claim 1, in which the nitro compound(s) to be detected is(are) chosen from nitroaromatic compounds, nitroamines, nitrosamines and nitric esters.

17. The use as claimed in claim 1, in which the nitro compound(s) to be detected is(are) in solid, liquid or gaseous form.

18. The use as claimed in claim 1, in which the nitro compound(s) to be detected is(are) chosen from nitrobenzene, dinitrobenzene, trinitrobenzene, nitrotoluene, dinitrotoluene, trinitrotoluene, dinitrofluorobenzene, dinitrotrifluoromethoxybenzene, aminodinitrotoluene, dinitrotrifluoromethylbenzene,

chlorodinitrotrifluoromethylbenzene, hexanitrostilbene, trinitrophenylmethylnitramine and trinitrophenol.

19. The use as claimed in claim 1, for detecting explosives.